

### CLAIMS

1. A ventilation system for respiratory devices, which comprises a bellows disposed inside a recipient provided with a manifold associated to a valve for the free flow of oxygen for the renewal of gases inside the re-inhalation respiratory circuit.

2. The ventilation system for respiratory devices of claim 1, wherein said bellows (4) is assembled upwardly inside the recipient (15).

3. The ventilation system for respiratory devices of claim 1, wherein said recipient (15) is formed by a main body (33), which upper end is closed by the said manifold (27) and the lower end is closed by a base (30).

4. The ventilation system for respiratory devices of claim 1, wherein said bellows (4) has an accordion-like profile (28), the base of which is provided with a circular opening (29) that fits in said base (30) of said reservoir (15), and said base is fixed by means of a pressure screw (34) on the main body (33).

5. The ventilation system for respiratory devices of claim 4, wherein the top of said bellows (4) is composed by a hard disk (31) that is fitted in said accordion-like profile (28) under pressure by means of an external ring (32).

6. The ventilation system for respiratory devices of claim 3, wherein the said base (30) of the recipient (15) also has a first connection (35) to couple a re-inhalation tube and a second connection (36) connected to said manifold (27).

7. The ventilation system for respiratory devices of claim 1, wherein said manifold (14) is provided with an exhaling valve (21) and at least with a release valve (17, 18, 58).

8. The ventilation system for respiratory devices of claim 1, wherein said valve for the free flow of oxygen (64) comprises two stages, a pilot

stage (65) and a main stage (66).

9. The ventilation system for respiratory devices of claim 8, wherein the said pilot stage (65) is formed by a solenoid (69) connected to the inlet channel (70) of the manual activation valve (71), which is constituted by a cursor (73) supported over a spring (75) which is activated by a manual key (74).

10. The ventilation system for respiratory devices of claim 8, wherein said main stage (66) is formed by the oxygen inlet channel (67) and by a second cursor (78) supported over a spring (79), the second cursor and the spring being activated by the movement of a diaphragm (77) by means of pressure in the chamber (76) that separates both stages.

11. The ventilation system for respiratory devices of claim 1, wherein said bellows (4) is of a flexible and sterilizable material, such as silicone.

12. The ventilation system for respiratory devices of claim 5, wherein said rigid ring (31) located on the top of the bellows (4) is preferably of aluminum.

13. The ventilation system for respiratory devices of claim 3, wherein said main body (33) of the recipient (15) is made of transparent material such as acrylics, preferably polycarbonate.

14. The ventilation system for respiratory devices of claim 3, wherein the edge of said manifold (27) is provided with indentations (39) that fit in pins (38) located at the upper portion of the main body (33).

15. The ventilation system for respiratory devices of claim 7, wherein said exhaling valve (21) and the release valve (18) located in said manifold (27) comprise an air nozzle (41, 56) provided with a flexible diaphragm (42, 55) activated by the pressure of an air inlet channel (43, 54).

16. The ventilation system for respiratory devices of claim 7,

wherein said release valve (17) activated by the bellows (4) comprises a cursor (46), the upper end of which is supported on a spring (47) over an air nozzle located within said manifold (27), and the lower end of which is supported on a flexible diaphragm (49) which is provided at its opposite side with a second cursor (50) disposed at the end of a disk (51) that projects to the internal side of the reservoir (15).

17. The ventilation system for respiratory devices of claim 7, wherein the release valve (58) comprises an air nozzle (59) which supports the flexible diaphragm (60) activated by the pressure of the channel (61).

18. The ventilation system for respiratory devices of any of claims 10, 15, 16 or 17, wherein the flexible diaphragms (22, 45, 49, 60, 77) are of silicone.